

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:** Please amend the claims as follows:

We claim:

**Claim 1. (Currently Amended)** Method A method for the sequential production of partial proteomes from the a complete proteome of a cell preparation, ~~characterised by the following method steps comprising:~~

- a) ~~provision of~~ providing a sample containing a cell preparation,
- b) ~~extraction of~~ extracting the cytosolic proteins and the membrane/organelle proteins from the sample provided in step a), leaving a cell nucleus preparation, and
- c) ~~extraction of~~ extracting the proteins from the cell nucleus interior from the cell nucleus preparation obtained in step b) by ~~treatment~~ treating with an extraction buffer having a pH of between 6.5 and 8 which comprises ~~at least the following constituents:~~
  - in total from 0.1 to 7 per cent by weight of one or more nonionic detergents,
  - in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives, and
  - one or more salts ~~from the group consisting of the~~ alkali metal and/or ammonium salts in a total concentration of between 75 and 500 mmol/l,

wherein detergent-resistant proteins of the cytoskeleton and of the nuclear matrix are not extracted to a significant extent together with the proteins from the cell nucleus interior, but instead remain in the extraction residue.

**Claim 2. (Currently Amended)** Method A method according to Claim 1, ~~characterised in that~~ wherein the extraction buffer employed in step c) additionally comprises a nuclease.

**Claim 3. (Currently Amended)** Method A method according to Claim 1, ~~characterised in that~~ wherein the extraction buffer employed in step c) comprises polyoxyethylene sorbitan monopalmitate as nonionic detergent, deoxycholate as cholic acid derivative and NaCl as alkali metal salt.

**Claim 4. (Currently Amended)** Method A method according to claim 1, characterised in that ~~the extraction of the cytosolic proteins and the membrane/organelle proteins in wherein~~ step b) is ~~carried out by~~ comprises:

- b i) ~~extraction of~~ extracting the cytosolic proteins from the sample provided in step a) by selective ~~permeabilisation~~ permeabilization of the plasma membrane without significantly impairing the integrity of the subcellular membrane/ organelle structures, the cell nucleus and the cytoskeleton.
- b ii) ~~extraction of~~ extracting the membrane/organelle proteins from the part of the sample remaining after the extraction in step b i) with retention of the structural integrity of cell nucleus and cytoskeleton.

**Claim 5. (Currently Amended)** Method A method according to Claim 1, characterised in that wherein the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix are, in an additional method step d), extracted as a further partial proteome from the extraction residue remaining in step c).

**Claim 6. (Currently Amended)** Protein A protein extraction kit at least containing an extraction buffer having a pH of between 6.5 and 8 which further comprises ~~at least the following constituents~~:

- in total from 0.1 to 7 per cent by weight of one or more nonionic detergents
- in total from 0.05 to 3 per cent by weight of one or more cholic acid derivatives
- one or more salts from the group consisting of the ammonium and/or alkali metal salts in a total concentration of between 75 and 500 mmol/l.

**Claim 7. (Currently Amended)** Kit A kit according to claim 6, additionally containing a nuclease.

**Claim 8. (Currently Amended)** Kit A kit according to claim 6, additionally containing a buffer for extraction of the cytosolic proteins and/or the membrane/organelle proteins from

cell preparations and a buffer for extraction of the proteins of the detergent-resistant cytoskeleton and of the nuclear matrix.

**Claim 9. (New)** A method of claim 1 wherein step b) comprises treatment of with a non-ionic detergent or a zwitterionic detergent under mild conditions.

**Claim 10. (New)** A method of claim 9, wherein said detergent comprises octylphenoxypolyethoxyethanol (Triton X-100) or polyethylene glycol p-isooctyl phenyl ether (NP-40).

**Claim 11. (New)** A method of claim 1, wherein said extraction buffer has a pH of between 6.9 and pH 7.8.

**Claim 12. (New)** A kit of claim 6, wherein said extraction buffer has a pH of between 6.9 and pH 7.8.

**Claim 13. (New)** A method of claim 1, wherein said extraction buffer comprises MOPSO, BES, MOPS, phosphate or PIPES at a concentration from between 2 and 100 mM.

**Claim 14. (New)** A kit of claim 6, wherein said extraction buffer comprises MOPSO, BES, MOPS, phosphate or PIPES at a concentration from between 2 and 100 mM.

**Claim 15. (New)** A method of claim 1, wherein said non-ionic detergent comprises 0.2 and 5% by weight of polyoxyethylene sorbitan monopalmitate and said cholic acid derivative comprises 0.1 to 2.5% by weight of Na deoxycholate.

**Claim 16. (New)** A kit of claim 6, wherein said non-ionic detergent comprises 0.2 and 5% by weight of polyoxyethylene sorbitan monopalmitate and said cholic acid derivative comprises 0.1 to 2.5% by weight of Na deoxycholate.

**Claim 17. (New)** A method of claim 1, wherein said extraction buffer comprises 10 mM PIPES, 1% by weight of polyoxyethylene sorbitan monopalmitate, 0.5% by weight of Na deoxycholate and 350 mM NaCl.

**Claim 18. (New)** A kit of claim 6, wherein said extraction buffer comprises 10 mM PIPES, 1% by weight of polyoxyethylene sorbitan monopalmitate, 0.5% by weight of Na deoxycholate and 350 mM NaCl.

**Claim 19. (New)** A method of claim 2, wherein said nuclease is an endonuclease from *Serratia marcescens*.

**Claim 20. (New)** A kit of claim 7, wherein said nuclease is an endonuclease from *Serratia marcescens*.